

# SPINMAN device for inertial impact absorption

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**Abstract.** *One of recently developed solutions for impact absorption and vibration damping investigated in IPPT PAN is a new inertial shock-absorber. The specific construction of the so-called SPIN-MAN device is introduced and the semi-active control performed on this device is presented. Features of the system enabling adaptation to identified impact conditions are indicated. Results of numerical simulations conducted for one of possible control strategies are shown. A specific control technique is demonstrated as the main source of significant improvement of the overall efficiency of impact damping process. Some applications of the device and directions of further research are considered, also main challenging issues are formulated.*